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## HERO-WORSHIP.

IN each cycle of human progress there has usually been some one great spirit brooding over the latent energies of the race, and warming them into life and action. Each department of knowledge has had, in like manner, its pioneer and guide, wandering far onward before the multitude, and serving as the lantern to their path. On the observation of these facts has been founded a belief in the monarchy of mind—a conviction that Providence has from time to time, for wise purposes, called forth out of the crowd particular individuals, showering upon them its inspiration, and consecrating them as kings and priests of the generation. This idea has been strengthened by analogies drawn from the general history of society. The rudest tribes of the Desert have their chiefs and great men, whose will is law: the most barbarous nations their irresponsible rulers, on whose personal character hang the fortunes of the people. Even refined societies have some highest caste, and these some highest individual, before whom the rest humble themselves, and implicitly follow: and thus the monarchical principle of hero-worship—as rife at this moment in America as in Europe, in France as in England—has become an article of universal faith.

A proof of this may be found in a favourite speculation of the thinkers of the day. The great lights of the world, say they, are extinguished—our mighty men have passed away. Everywhere we see small aggregations in headlong collision with each other; but the united tread of nations is no longer heard echoing over the earth. In science and literature there are at best only aristocracies, dividing into insignificant fractions a great power; in poetry there are multitudes of small, sweet sounds, discoursing sufficiently eloquent music, but no master-song to thrill and subdue. All present things show that there is a general interregnum—a pause—and all past experiences teach us to look for a new advent. Who, what, and where are the Coming Men?

We do not dissent from the data here laid down, but we question the inference. The epochs of the moral world are under laws as distinct as those of the physical world. The same rule of progression exists in both; and we may trace the onward progress of the human race as clearly as that of the external earth, prepared by means of successive geological changes, for their reception. The institutions of earlier ages have not passed away. Their character has been merely modified in new developments; serving as an illustration of the Brahminical idea of a succession of existences throughout the same individuality. Absolute governments, vested in a single person, are overturned in the natural progress of society, but are not destroyed:

the elements of their power still exist in an aristocracy; and this, in turn, gives place to a wider diffusion. These successive developments can only end when the whole species arrives at a state of comparative perfection, and when, consequently, there will be no individuals towering, either morally or physically, above the mass; but in the meantime the new phases they present are mistaken in each age, by large masses of mankind, for new and monstrous existences marring the natural order of society. The idea of absolute monarchy is thus, in one shape or other, constantly reproduced; and the world, always governed by traditions, is struck with fear and wonder when the giants of its race disappear.

At the present moment, the evidences of this supposed interregnum are sufficiently remarkable. Our great men have indeed perished. In government, war, science, literature, we see only a crowd of individuals more or less capable, but none supreme; and we cry out with the discontented masses of old, 'There is no king in Israel!' But are we not deceived? May we not mistake a new development for an interruption of order? Let us remember that this is not the age of originality, but appliance; not of theory, but experiment; not of discovery, but invention. We trade upon a capital amassed by our fathers, and carry out into action the ideas they sometimes only faintly conceived. This is a work which may employ, and even demands, many brains. One man may pioneer; but the route being once pointed out, numbers may enter in, and pass far beyond the discoverer. Some are a little in advance, some lag a little behind, some diverge from the path: but a single great leader is unnecessary, for we have entered upon a new tide of progress, and live under a new dispensation.

The hero-worship which shuts our eyes to this fact should be confined to the great men of the past; to whose example each individual of the new age should look for instruction and encouragement, instead of gaping for the advent of a new dynasty, or groping for the heir of the dormant line. But even this hero-worship should not be a blind superstition, but a rational and discriminating reverence. We must estimate each age according to its own lights; and when we see some one throwing forward his spirit in advance of the time, and identifying himself with a future generation, then only should we recognise and reverence the new development. This large way of viewing the past may be of great advantage to the present; for history is not a jumble of fortuitous events, but a record of what will one day be resolved into a true science. The prevailing fault is, to read epoch by epoch, without attending to its connection with the past and the future; and thus old ideas are carried down in a stereotyped form, which, although true in themselves, are, by reason of this un-

yielding substantiality, opposed to truth and to the experience of mankind.

But the hero-worship of the past should not interfere, as it unfortunately does, with our respect for the present; retarding the growth and manifestation of individual greatness. The world is said not to know its great men—till it has lost them. Perhaps each generation is guilty of this error; but the present is peculiarly so. Genius has now to contend against not only the vulgar detractors of ordinary life, but the hypercritical observations of a press which is daily extending its influence. Unless animated with extraordinary courage and enthusiasm, and to a certain extent independent of the world's support, few men will voluntarily run the gantlet of criticism, and, it may be, partisan abuse. Thus society is defrauded of its due. How often is it demonstrated that a charitable and kindly consideration of human conduct, besides being recommendable on moral grounds, is decidedly the best in point of actual return in worldly benefits.

And yet criticism is desirable: the only thing we plead for is, that it should be cautious and temperate. It is not to be doubted that our social system is vexed with 'false prophets'—men who mean well, but whose overheated fancies carry them beyond all reasonable bounds, leading them to propound and put themselves at the head of schemes which experience proves to be impracticable and fallacious. These 'geniuses' unquestionably have done much in late years to make the word 'progress' a subject of ridicule. In spite of their errors, however, in the face of all retarding influences, society is getting on. There is, indeed, a steady and regular tide in the fortunes of the social world. To understand this, we must not confine our view to one epoch or one nation; and we must neither suppose that the great onward movement is without interruption, nor cast doubts upon its existence because of the backfalling even of whole tongues and peoples. The subject is of immense scope; and we must open our minds accordingly if we would grasp it. In our own country, the track is so obvious, that it is impossible to wander if we only use our eyes; although we are constantly falling into error because we confine our view to the little circle of space and time around us, without looking backward and onward to ascertain our bearings. This narrowness of calibre, into which the large lessons of history cannot enter, is the grand misfortune of most of our public men. Instead of assisting progress, they strive to retard it; and in struggling against the tide, they take credit to themselves for public virtue. The 'principles' of such men (for that is their favourite word) are just in themselves; but, belonging to the class of stereotyped ideas—that is to say, to ideas that have had no share in progressive development—they are inapplicable to the age.

The history of the great political questions that have been agitated from time to time in this country is full of instruction, although few are the wiser for it. The successive ameliorations that have taken place have all been the results of hard-contested battles; and no sooner is one victory gained, than the defeated party, rallying afresh under some time-worn banner, take their hopeless stand by some new obstruction. Not looking at the context of history, not believing in progressive development, the leaders fancy that they are at least securing for themselves a share in the hero-worship of the nation. But no fame is secure but that which is identified with the onward march of mankind. Wit, eloquence, courage—nothing avails but to illustrate their defeat; and the only consolation they find is in the

applause of the congenial rabble of their own day, who see no clearer and no farther than themselves.

If we are correct in supposing that the present is only an imaginary interregnum—that, in fact, the governing power of mind having reached a new stage of development, is merely distributed among a greater number—it follows that there is a wider scope for individual ambition. Distinction should be looked upon as a fund for which all mankind have the privilege of scrambling; although it is obvious that only a few can succeed in the attempt, for if many rose to the same level, there would be no such thing as distinction. Every age has had its few great authors—artists—philosophers—statesmen—captains—placed like beacons along the descending line of history, to mark the epoch for posterity. But we should not forget that the character of the time is never formed by these distinguished individuals. They are the wonder of their own, as well as of succeeding ages. They are exceptions which prove the general rule of mediocrity. But this mediocrity—the mean between the high and the low—is like the middle class in society, the pith and substance of the whole mass. It is a mediocrity, too, which is only comparative. It knows more than the greatest of its predecessors, for it begins at the point where they ended. The learning of the present age includes in its own the whole learning of the past. A gentleman of our day is more elegantly and conveniently lodged than the most powerful noble of the Middle Ages; and there is not one of our peasant women who does not wear habitually a certain under garment which, three or four centuries ago, was reckoned an extravagant luxury in a queen of France.

In this simple and obvious fact, that each generation, besides accumulating for itself, inherits the accumulations of the last, resides the grand arcanum. It explains the rationale of progressive development, unseals the book of history, and throws a light, like that of a torch, into the shadowy vista of the future. It is in itself progress; and thus a word which is usually considered as involving either a mystery or a mischief, becomes both clear and innocent. Taking this fact for our vantage-ground, we stand up for the dignity of the present generation. We, men of this passing day, are the heirs of all time. All is ours that our fathers won, with the sword or the pen, by prayer—study—endurance—watching—strife. For us the sage has thought, the warrior bled, and the poet dreamed. Our infancy is soothed with the melodies of a thousand years, our youth thrilled with the love-songs that have gushed from unnumbered hearts, and our parting spirit borne away upon the hymns of saints and martyrs. But remember that our high destiny, in the words we quoted recently when treating of noble birth, conveys no merit, but much duty to its inheritor. To us have been given the five Talents, and we to us and ours if we do not turn them to profitable account!

It is good to reflect upon our inheritance and its obligations; and in doing so, we need not fear that we indulge in any idle dream or unpractical speculation. It inspires us with a noble craving and lofty emulation, and yet is accompanied by all kindly thoughts and brotherly regards, lifting us above the mean conventionalisms of outward life, and making the whole world kin. It calls into the field of mental culture thousands of high intellects and manly hearts which would otherwise have been overborne by the weight of everyday work and transmitted prejudice; and it enables us to listen with a proud smile to the vulgar question touching the

supposed dormant race of the world's giants, and to exclaim—however individually weak we ourselves may feel—there is no interregnum! L. R.

### THE SONG AND THE SINGER.

BY PERCY B. ST JOHN.

It was during the early days of the great Revolution of 1789, in the year 1792, when a young officer in delicate health took up his quarters in the city of Marseilles for the six months of his leave of absence. It seemed strange retirement for a young man, for in the town he knew no one, and in the depth of winter Marseilles was no tempting residence. The officer lived in a garret looking out upon the street, which had for its sole furniture a harpsichord, a bed, a table, and a chair. Little but paper ever entered that apartment, where food and fuel both were scarce; and yet the young man generally remained in-doors all day assiduously writing, or rather dotting something upon paper, an occupation he alternated with music.

Thus passed many months. The young man grew thinner and paler, and his leave of absence appeared likely to bring no convalescence. But he was handsome and interesting, despite his sallowness. Long hair, full beaming eyes that spoke of intelligence, and even genius, frankness of manner, all prepossessed in his favour, and many a smile and look of kindness came to him from beautiful eyes that he noticed not nor cared to notice. In fact he rarely went out but at night, and then to walk down by the booming sea, which made a kind of music he seemed to love. Sometimes, it is true, he would hang about the theatre door when operas were about to be played, and look with longing eye within; but he never entered: either his purse or his inclination failed him. But he always examined with care the name of the piece and its author, and then walked away to the sea-shore, to muse and meditate.

Shortly after his arrival in Marseilles, he visited, one after another, all the music-sellers and publishers in the town with a bundle of manuscripts in his hand; but his reception was apparently not very favourable, for he left them all with a frowning air, and still with his bundle of manuscripts. Some had detained him a long time, as if estimating the value of the goods he offered for sale; but these were no more tempted than the others to try the saleable character of the commodity. The house he lodged in had attached to it a large garden. By permission of the landlord, the young man often selected it for his evening walks, and, despite the cold, would sometimes sit and muse in a rude and faded bower under a wall at one of the gables. Here he would occasionally even sing, in a low tone, some of his own compositions. It happened once or twice that when he did so, a female head protruded from a window above him, seeming to listen. The young man at length noticed this.

'Pardon, lady,' said he one evening; 'perhaps I disturb you?'

'Not at all,' she replied: 'I am fond of music, very fond, and the airs you hum are new to me. Pray, if not a rude question, whose are they?'

'Citoyenne,' he answered diffidently, 'they are my own.'

'Indeed!' cried the lady with animation; 'and you have never published them?'

'I shall never try—again,' he murmured, uttering the last word in a low and despairing tone, which, however, reached the ears of the young woman.

'Good-night, citizen,' said she, and she closed her window. The composer sighed, rose and went out to take his usual walk by the sea-beach; there, before the grandeur and sublimity of the ocean, and amid the murmur of its bellowing waves, to forget the cares of the world, his poverty, and his crushed visions of glory and renown—the day-dream of all superior minds—a dream far oftener a punishment than a reward; for of those who sigh for fame, few indeed are successful.

Scarcely had he left the house, than a lady, habited in cloak and hood, entered it; and after a somewhat lengthened conference with his *concierge*, ascended to his room, and remained there about an hour. At the end of that time she vanished. It was midnight when the composer returned. He entered with difficulty, the Cerberus of the lodge being asleep, and ascended to his wretched room. He had left it littered and dirty, without light, fire, or food. To his surprise a cheerful blaze sent its rays beneath the door. He opened it, not without alarm, and found his apartment neatly ordered, a fire burning, a lamp, and on the table a supper. The young man frowned, and looked sternly at the scene.

'Who dares thus insult my poverty? Is it not enough that I am starving with cold and hunger, that I am rejected by the world as a useless and wretched thing, incapable of wielding either sword or pen, but I must be insulted by charity? Fire, light, and food, all sent to me by one who knows my necessity! And yet who knows? Perhaps my mother may have discovered my retreat. Who else could have acted thus? My mother, I bless thee both for your action and for respecting my concealment!' And the invalid officer sat down to the first hearty meal he had eaten for weeks. He had left home because his friends wholly disapproved of his making music a profession, and wished him to employ his leave of absence in learning another occupation. His mother so pressed him, that he saw no resource but a soldier's last chance—a retreat. For two months no trace of the fugitive had been seen—two months spent in vain efforts to make his chosen career support him; and now, doubtless, his mother had found him out, and had taken this delicate way of respecting his secrecy and punishing his pride.

Next morning the young man awoke with an appetite unknown to him of late. The generous food of the previous night had restored his system, and brought him to a natural state. Luckily, sufficient wine and bread remained to satisfy his craving, and then he sat down to think. All his efforts to get his music sung, or played, or published, had been vain. Singers knew him not, publishers declared him unknown, and the public seemed doomed never to hear him, because they never had heard him; a logical consequence very injurious to young beginners in literature, poesy, music, and all the liberal arts. But he was determined to have one more trial. Having eaten, he dressed and went out in the direction of the shop of the Citoyen Dupont, a worthy and excellent man, who in his day had published more music, bad and good, than a musician could have played in a lifetime.

'You have something new, then, citizen?' said Dupont after the usual preliminaries, and after apologising to a lady within his office for leaving her a while. 'As my time is precious, pray play it at once, and sing it if you will.' The young man sat himself at the harpsichord which adorned the shop, and began at once the 'Song of the Army of the Rhine.' The music-publisher listened with the knowing air of one who is not to be deceived, and shook his head as the composer ended.

'Rough—crude—but clever. Young man, you will, I doubt not, do something good one of these days; but at present, I am sorry to say, your efforts want finish, polish'—The singer rose, and bowing, left the shop, despair at his heart. He had not a sou in the world: his rent was in arrear: he knew not how to dine that evening, unless, indeed, his mother came again to his aid—an aid he was very unwilling to receive. His soul repugned from it, for he had parted from her in anger. His mother was a Royalist, he was a Republican, and she had said bitter things to him at parting. But most of all the composer felt one thing: the world would never be able to judge him, never be able to decide if he had or had not merit; and this was the bitterest grief of all.

That day was spent in moody thought. The evening came, and no sign again of his secret friend, whether mother or unknown sympathiser. Towards night the



pangs of hunger became intolerable, and after numerous parleys with himself, the young man ascended to his room with a heavy parcel. His eye was wild, his cheek pale, his whole mien unearthly. As he passed the door of his lodge the concierge gave him a ticket for the Opera, signed Dupont, who was co-manager of the theatre.

'Go thyself,' said the composer in a low husky voice, and he went up stairs.

Having gained the room, the unhappy and misguided young man sat silent and motionless for some hours, until at length hunger, despair, and his dreamy visions had driven every calm and good thought from his head, and then he dared quietly proceed to carry out his dreadful and desperate intent. He closed carefully the window, stuffed his mattress up the chimney, and with paper stopped every aperture where air could enter. Then he drew forth from his parcel charcoal and a burner, and lit it. Thus had this wretched man determined to end his sufferings. He had made one last effort, and now in that solitary, dismal garret, he laid him down to die; and poverty and misery, genius and death, were huddled close together.

Meanwhile, amid a blaze of light, the evening's amusement had begun at the theatre. A new opera from Paris was to be played, and the prima donna was the young, lovely, and worshipped Claudine, the Jenny Lind of that time and place. The house was crowded, and the first act succeeding beyond all expectation, the audience were in ecstasy.

'She is a jewel!' said M. Dupont, who, from a private box, admired the great supporter of his theatre. A roar of applause from the pit delighted at this instant the good man's ears. Claudine, called before the curtain, was bowing to the audience. But what is this? Instead of going off, she has just signed to the orchestra to play. She is about to show her gratitude to the audience in verse. M. Dupont rubs his hands, and repeats twice between his teeth 'She is a jewel!' But with ease and rapidity the band has commenced playing an unknown air, and the next instant M. Dupont is standing up with a strange and wild look. Hushed and still was every breath: the audience look at each other: not a word of communication takes place: men shudder, or rather tremble with emotion. But the first stanza is ended; and then a frantic shout, a starting of all to their feet, a wild shriek of delight, a cry of a thousand voices thundering the chorus, shows how the song has electrified them.

M. Dupont frowned, for the air and the song were not new to him: it was the 'Song of the Army of the Rhine' he had refused that morning! But Claudine proceeds: again the audience is hushed in death-like silence; while the musicians, roused to an unusual degree of enthusiasm, played admirably; and Claudine, still singing with all the purity, feeling, and energy of her admirable voice, plunged her eyes into every corner of the house—in vain. At each couplet the enthusiasm of the people became greater, the anxiety of the singer more intense. At length she concluded, and never did applause more hearty, more tremendous, more uproarious, greet the voice of a public songstress. The excitable population of Marseilles seemed mad.

When silence was restored, Claudine spoke—'Citoyens and citoyennes!' she exclaimed, 'this song is both written and composed by a young and unknown man, who has in vain sought to put his compositions before the public. Everybody has refused them. For myself, I thought this the greatest musical effort of modern times; and as such I practised it to-day; and, unknown to manager or author, I and the band prepared this surprise. But the author is not here. Poor and despairing, he is at home lamenting his unappreciated efforts! Let us awake him; let him learn that the generous people of Marseilles can understand and feel great music. Come, let all who have hearts follow me, and chant the mighty song as we go.' And Claudine, stepping across the orchestra, landed in the pit, and, bareheaded, light-dressed as she was,

rushed towards the door, followed by every spectator and by the musicians, who, however, put on their hats, and even threw a cloak and cap on the excited and generous young songstress.

Meanwhile the composer's dreadful resolve was being carried out. The horrid fumes of the charcoal filled the room: soon they began to consume and exhaust the pure air, and the wretched youth felt all the pangs of coming death. Hunger, exhaustion, and despair kindled a kind of madness in his brain: wild shapes danced around him: his many songs seemed sung altogether by coarse, husky voices, that made their sound a punishment: and then the blasted atmosphere oppressing his chest, darkening his vision, his room seemed tenanted by myriads of infernal and deformed beings. Then again he closed his eyes, and soft memory stealing in upon him, showed him happy visions of his youth, of his mother, of love, and hope, and joy; of green fields, and the murmuring brooks which had first revealed melody unto his soul; and the young man thought that death must be come, and that he was on the threshold of a better world.

But an awful shout, a tremendous clamour, burst on his ear: a thousand voices roar beneath his window. The young man starts from his dream: what is this he hears?

'Aux armes! citoyens,  
Formez vos bataillons,' &c.

'What is this?' he cries. 'My Song of the Rhine!'

He listens. A beautiful and clear voice is singing: it is still his song, and then the terrible chorus is taken up by the people; and the poor composer's first wish is gained: he feels that he is famous.

But he is dying, choked, stifled with charcoal. He lies senseless, fainting on his bed; but hope and joy give him strength. He rises, falls rather than darts across the room, his sword in hand. One blow shivers the panes of his window to atoms; the broken glass lets in the cool sea-breeze and the splendid song. Both give life to the young man; and when Claudine entered the room, the composer was able to stand. In ten minutes he had supped in the porter's lodge, dressed, and come out, to be borne in triumph back to the theatre, where that night he heard, amid renewed applause, his glorious song sung between every act, and each time gaining renewed laurels.

Ten days later, Rouget de L'Isle was married to Claudine, the prima donna of Marseilles; and the young composer, in gratitude to her and her countrymen, changed the name of his song, and called it by the name it is still known by—'The Marseillaise!'

#### GENERAL CONSIDERATIONS ON EPIDEMIC DISEASES.

SOME of our readers may have heard of a work on the 'Epidemics of the Middle Ages,' published fifteen or sixteen years ago by Dr Hecker, a celebrated German physician, and recently translated into English under the auspices of the Sydenham Society.\* This work has been much spoken of, as containing not only an ample historical account of some of the most remarkable epidemics of modern times, but also certain important speculations relative to the physical nature of these terrible visitations, and the social results that flow from them. The book hardly answers the expectations we had been led to form of it. As a history, indeed, of the three great epidemics it professes specially to treat of—namely, the Black Death of 1348-1351, the Dancing Mania of 1374 and subsequent years, and the English Sweating Sickness of 1478-1581—it is probably unrivalled. The general considerations, however, that are

\* The Epidemics of the Middle Ages, from the German of J. F. C. Hecker, M. D., Professor at Frederick-William's University at Berlin, &c. &c. Translated by B. G. Babington, M.D., F.R.S., &c. London: 1844.

interspersed with the narrative of facts, are by no means either profound or numerous. More valuable in this respect is a 'Treatise on Epidemic Cholera,' just published by Dr Russell, an Edinburgh physician,\* the particular object of which is to illustrate the homœopathic treatment of cholera, by a detailed account of the author's experience during the recent prevalence of the epidemic in Edinburgh; but which contains, in addition, a large accumulation of important facts, noted by medical observers of the disease in different parts of the world, as well as some very interesting hints and reflections, offered towards a scientific theory of this and other epidemics. Refraining entirely from the homœopathic portion of this work, with which of course it is not for us to deal, we shall avail ourselves of its historical and reflective portions, in conjunction with the treatise of Hecker, in order to place before our readers a summary view of what may be called the present state of speculative tendency in the medico-scientific world on the subject of epidemic diseases.

In the first place, as regards the physical nature of epidemics—their nature, that is, as phenomena caused by or accompanying certain other manifest changes in the condition of our globe, or of its atmosphere. On this head the most important of the observations hitherto recorded may be summed up in two propositions, which we shall state separately:—

1. *The progress of pestilences appears, on the whole, to be from east to west, or in the reverse direction of the earth's rotation.*—According to all history and all tradition, plagues have made their first appearance in Oriental countries, and have thence spread over the west. This law, if it may be so called, is well exemplified in the case of the Black Death, that terrible disease of blood-spitting and tumours which in the fourteenth century ravaged all Asia, Africa, and Europe, and which, though we cannot trace it into the then unknown hemisphere of America, probably traversed that hemisphere too, making the round, as it were, of the whole globe, and carrying off, according to the best calculations, one-fourth part of its entire population; whilst in some localities it left but two persons alive out of every twenty. This dreadful epidemic first arose in China, on the very borders, it would seem, of the Pacific Ocean; thence it advanced westward through Asia, mowing down myriads in its way: gathering itself on the coasts of the Levant and of Asia Minor, it then rolled over Europe and Northern Africa; and ultimately mingling with the winds of the Atlantic, it disappeared like a gloom in the distance. If, indeed, we consider its course in detail, we shall find certain deviations from the general westward direction. Sometimes it leaped from one locality to another, lying north or south of it rather than west; sometimes it even appeared to return eastward to a spot it had missed or postponed; and on the whole, in its course through Europe, there appeared to be a general bearing in a direction north or north-west from the Black Sea and Mediterranean towards the North Sea and the Baltic. In short, it appeared that the morbid influence, though impelled steadily in a general westward direction, was liable to be deflected to some extent out of its proposed course by a variety of subordinate causes—as, for example, by the opposition (not always effective, however) of vast physical obstacles, such as a mountain-chain or an arm of the sea; by a tendency (denominated contagion) to follow the great lines of human intercourse—a tendency illustrated by its progress over Asia, when it chose the caravan-routes, and by the fact, that in Europe it broke out first in seaports having a direct maritime communication with previously-infected places; by a preference for spots already prepared for its visit by certain favourable conditions of filth, bad drainage, unwholesomeness of site, &c.; in which spots it would accordingly concentrate itself with

special virulence; and finally, by a disposition, probably native to itself, to zig-zag from place to place in an electric manner, according to the varying nature either of the atmospheric masses it encountered, or of the terrestrial strata over which it moved.

And so with other epidemics; as, for example, the cholera. The course of this disease, during its first progress over Asia and Europe, is well illustrated in a map prefixed to Dr Russell's work, showing, by means of red marks and dates placed under the names of all the cholera-visited towns from India to Britain, the order in which these towns were attacked, their geographical range, and their bearings with relation to each other. One general principle of progress has always been apparent: the progress has been from east to west, the rate of advance, however, being various, and one would almost say capricious. Like the Plague, then, the cholera appears, speaking in a vague physical way, to be a vast morbid influence, moving at a certain rate from east to west over the surface of our globe; liable, too, like the Plague, to be determined to some extent in its course by the circumstances presented to it; finding difficulty, for example, in crossing a mountain range, advancing with alacrity along the course of rivers from their mouths to their sources, and pursuing, by preference, the great lines of human intercourse (in many cases, however, also sweeping over thinly-peopled tracts), concentrating itself in large and unwholesome cities, as if by an affinity with the conditions already existing there.

Plague, cholera, and other epidemics of course act with more or less deadly effect according to the susceptibility of the person; and it may be laid down as a general rule, that those who habitually obey the laws of health—are temperate, attend to proper warmth, diet, and cleanliness—these have uniformly the best chance of escape; for they enjoy conditions which may be said to fortify them so far against external influences. A physician from India has stated, with great plausibility, in one of the public papers, that cholera has originated in a great degree from the want of salt among the poorer classes in Hindoostan—the absence of this useful condiment having apparently the effect of inducing a susceptibility to atmospheric poison.

The Sanitary Commissioners have directed attention chiefly to those circumstances determining the course of the cholera that are within human control—as, for example, on its undoubted preference for ill-drained and foul localities. Perhaps, however, their publications on the subject have tended to draw away attention from what may be called the more purely scientific considerations respecting the course of the cholera—as, for example, that the cholera is not generated by foul sanitary conditions, but is a great pre-existing morbid influence resistlessly moving round the globe at any rate, and only seizing on those conditions in its progress; and again, that there is strong reason to think that there are other conditions, not within human control, on which it will seize with equal avidity; the meteorological and geological conditions, namely, of particular districts or localities. Perhaps, also, the commissioners have too decidedly committed themselves to the opinion that cholera is not contagious. That the disease will advance without any assistance from human means of conveyance—nay, that all quarantine precautions will be ineffectual to keep it out of a district that lies in its track—are indeed ascertained facts; but, on the other hand, it is equally true that it has shown, upon the whole, a preference for peopled and commercial routes, and that it has in many cases availed itself of the vehicle of an individual traveller, in order to transport itself a day or two earlier into a place that it was in any case about to visit. That, had all intercourse between Europe and America been suddenly cut off at the moment the cholera was known to be in Europe, the disease would not have reached America, is by no means likely; it would slowly have rolled itself perhaps through the atmosphere and over the waves;

\* A Treatise on Epidemic Cholera, by J. Rutherford Russell, M.D., with an Appendix of Cases treated in the Edinburgh Homœopathic Dispensary, 1848-1849, and a Map, showing the course of the Cholera from India to Britain. London: 1849.

yet we know it did go to America lodged in European ships. And as regards the means by which cholera spreads itself within the limits of particular districts, Dr Russell has, we think, demonstrated that in Scotland, at least, contagion was one of those means. In this he agrees with Professor Simpson and Dr Alison, both of whom believe in the occasional propagation of cholera by contagion.

2. *Pestilences appear always to have been preceded or accompanied by other physical phenomena of an equally extensive nature—as earthquakes, blights in the vegetable world, violent and continued tempests, sultry heats, creeping palpable mists, deluges, unusual swarms of insects, &c. &c.; as if all these were but so many external indications of some one deep process affecting at the time the entire ball of the earth.*—This proposition, according, as it does, with vague popular tradition, rests also on historical evidence. Thus in the case of the Black Death, this epidemic was preceded by earthquakes and serious atmospheric disturbances, as if nature had been somehow out of joint. The same thing has been observed with regard to other pestilences. The plague at Aleppo in 1760 was 'preceded by famine, by uncommon diseases, and by earthquakes;' and in an account we remember to have read of the great Plague of London, the enormous increase of insects, especially house-flies, about the time is particularly mentioned. In the East, it is said, portentous physical events are always regarded by the natives as forerunners of pestilence; a fallacy of the popular imagination it may be, but possibly also, to some extent at least, the result of an ancient popular induction still verified by experience. Even as regards the cholera, observations to the same effect have not been wanting. The potato blight and the influenza must be in every one's recollection; the connection of the latter at least with cholera is considered as established. More recondite and precise is the observation of Dr Prout, quoted by Dr Russell, relative to the increased weight of atmospheric air in London during the cholera visitation of 1832. Dr Prout 'had for some years been occupied in investigations regarding the atmosphere; and for more than six weeks previously to the appearance of cholera in London, had almost every day been engaged in endeavouring to determine, with the utmost possible accuracy, the weight of a given quantity of air, under precisely the same circumstances of temperature and pressure. On a particular day, the 9th of February 1832, the weight of the air suddenly appeared to rise above the usual standard. As the rise was at the time supposed to be the result of some accidental error, or of some derangement in the apparatus employed in order to discover its cause, the succeeding observations were made with the most rigid scrutiny; but no error or derangement whatever could be detected. On the days immediately following, the weight of the air still continued above the standard, though not quite so high as on the 9th of February, when the change was first noticed. The air retained its augmented weight during the whole time these experiments were carried on; namely, about six weeks longer. . . . About the 9th of February, the wind in London, which had previously been west, veered round to the east, and remained pretty steadily in that quarter till the end of the month. Now, precisely on the change of the wind, the first cases of epidemic cholera were reported in London; and from that time the disease continued to spread.' The appearance of the cholera in Sunderland in 1831 was attended, according to Dr Clanny, with peculiar atmospheric changes—particularly thunder-storms and lightnings during the night. Speaking also of St Petersburg during the present visitation of cholera, Dr Müller, a German physician, observes:—'The air during the whole time of the presence of cholera here was oppressive, heavy, and very changeable in its temperature. There were frequent thunder-storms: rain fell almost daily: the sky was gloomy—very misty in the evening; the sun seldom broke through. The depressing influence acted more

or less upon every one; almost without exception all experienced a certain feeling of discomfort, weariness, pressure at the pit of the stomach, and tearing pains on the lower limbs.' In almost all the districts where cholera has been prevalent similar phenomena have been observed. In our climate, however, where the weather is in any case variable, the connection between such phenomena, even when extraordinary, and the contemporary or subsequent epidemic, is not so palpable and evident as in India, where the succession of certain states of weather throughout the year being more fixed and uniform, deviations naturally attract more notice, and have a plainer significance. Now, in India it is a belief universal among medical men and others that the prevalence of epidemic cholera in a locality is preceded or accompanied by unusual meteorological appearances. One witness states that 'he had particularly observed that the epidemic was invariably preceded and accompanied by a large black cloud hanging over the place;' and adds, that 'this had been universally remarked, and that the appearance had even received the name of the *cholera cloud*.' Hurricanes and thunder-storms of unusual violence have also usually attended the cholera in its march through India.

Giving to this fact of the contemporaneousness of epidemic diseases with extraordinary atmospheric or telluric phenomena its most general expression, one would state it thus:—That as the earth was not prepared to support human life until a certain aggregate of conditions had been realised in it, and as the human race only entered on the possession of the planet when this aggregate of conditions had been realised, the antecedent geological epochs having been occupied by animated creations not requiring so mature or perfect a system of conditions, so even yet there may occur temporary failures of the required sum-total of conditions—temporary withdrawals of certain items in that total; temporary relapses, so to speak, of the whole earth towards its preadamite condition. In some cases, as in that of the Black Death of the fourteenth century, the relapse was enormous: there was in that case such a reduction or alteration of the fixed aggregate of conditions necessary to human life, that one-fourth part of all the human inhabitants of the earth were extinguished; and had the reduction or alteration been but a little greater—had the reimmersion, so to speak, into the preadamite system of conditions been but a little more complete—the whole human race might have been destroyed, or the number of persons saved might have been a mere per-centage. It is consistent with this view, that in that case not only the atmosphere was affected, but, as appears from the passages already quoted from Hecker, the very fabric of the earth was torn and shaken, as if there were a relapse even of the solid body of the earth towards its primitive state of volcanic instability; whereas, in milder and less destructive epidemics—such as the cholera—the alteration of the conditions of life appears to be less thorough and profound, confined chiefly to the atmosphere, and not affecting, to any great extent at least, the solid body of the earth, or the relations of its crust to its molten core.

Blending now the two propositions that we have been illustrating with regard to epidemics, our notion of these terrible occurrences would assume the following theoretic form:—That occasionally, at particular spots of the earth's surface, there takes place a sudden derangement of the aggregate of atmospheric or telluric conditions necessary to human life; that sometimes this derangement is local and temporary; but that at other times it extends itself in some mysterious way, creeping slowly in the shape of an impalpable morbid influence, and generally in a westerly direction round the earth and through its atmosphere, until the whole world is affected, those spots suffering most severely, however, that present to the advancing morbid influence certain combinations of circumstances that specially attract and hold it. Still, however, all this is comparatively vague; and the questions naturally arise—What is the parti-



cular derangement, alteration, or reduction of the terrestrial conditions of human life that commonly originates epidemic disease; and is the derangement, alteration, or reduction the same in kind in all epidemics, and only different in degree? How, too, does the derangement or morbid influence spread and extend itself; and what determines the rate of its dissemination?

Such questions as these our science is, and will long remain, too meagre to answer. In the talk, however, that now prevails on the subject of epidemics, two different modes of conceiving the physical character of such influences are confusedly discernible. In speaking of cholera, typhus, &c. some theorists habitually make use of such phrases as 'poison in the atmosphere,' 'disseminated virus,' 'cholera-miasm,' &c. At the bottom of this mode of speaking there evidently lies the idea that epidemics are caused by the positive addition of some unusual and noxious ingredient—necessarily of a gaseous kind—to the normal atmosphere. The quantity of this ingredient may be so small as to escape the most delicate tests; or, as Dr Prout's experiments on the weight of a given bulk of air during cholera (thermometrical and barometrical conditions being the same) would seem to indicate, it may in some cases be quite appreciable. Under this 'poison-theory' may be also included that variety of the same mode of thinking which, without supposing the addition of any positively new ingredient, yet supposes such a change in the relative proportions of the established constituents of the atmosphere (oxygen, nitrogen, carbonic acid, water, &c.) as would convert the wholesome fluid into a veritable though slow poison. A sudden addition or diminution of the quantity of moisture, for example, might have something of this effect. In either case the theory is, that a contaminated local atmosphere may extend itself, and that, being breathed by the lungs of men, it acts on the system by some process of vital chemistry, so as to produce death. Thus, of Asiatic cholera, the Sanitary Commissioners say that 'it appears to be caused by a poison diffused through the atmosphere, which acts with peculiar intensity on the mucous membrane of the alimentary canal.' Somewhat different from this theory is that which seeks for the cause of epidemics not in a change of the ponderable constituents of our atmosphere, so much as in a change in the activity of the imperceptible influences or forces that hold the whole earth together, and particularly in a change of its electrical conditions. The two theories are not necessarily inconsistent; for any change, for example, in the composition of the atmosphere hanging over a marsh or lake, would necessarily involve some change in its electrical condition; and, *vice versa*, a sudden electrical change in such a case would thrill like a rearranging influence through the whole mass of atmospheric atoms. Cholera or plague may consist, therefore, in an envenomed or altered atmosphere; and yet the characteristic and deadly fact respecting this envenomed or altered atmosphere may be in the abnormal electrical character that is thus given to it. In fact—though to speak of cholera or plague as 'something electric,' or a 'derangement of the telluric electricities,' is equally vague as to speak of it as a 'poison in the atmosphere'—such a leaning towards the electric view of the case seems a better intellectual direction.

We recollect to have seen some months ago in a medical journal a very curious table or scale of diseases, arranged according to a theory of their different electrical characters. Highest in the list were mania, hydrophobia, and such-like diseases of what may be called an enormously-excited organism; corresponding, as the writer believed, to highly-positive electrical states of the bodies of the patients. Lowest in the list were cholera, plague, and such-like diseases of excessive prostration; corresponding, as he believed, with low negatively-electrical states of the bodies of patients; and intermediate were the more ordinary diseases, ranking either on the positive or on the negative side of the electrical scale, according to their character. If one were to accept

such a theory as proved, the resulting conception would be something to this effect:—That what is called health in different persons is, or is indicated by, a certain electrical state of body (differing in different persons; lying in some on the positive, in others on the negative side of zero); that whatever tends inordinately to raise this electrical state—that is, to make the individual too positively electric, as compared with the general mass of things—tends to produce disease of one kind; and that whatever tends to depress his electrical state—that is, to make him too negatively electric, as compared with the mass of things—tends to produce disease of an opposite kind; consequently, that any permanent elevation of the electrical condition of the atmosphere, or the earth's crust, at any locality, would tend to produce epidemic furor, rabies, or fever there; while any permanent depression of the same would tend to produce such epidemics as cholera. Cholera, according to such a view, would be the result of a greatly-lowered electrical condition of the earth's surface or its atmosphere, produced originally by a chemical process or processes in or on the earth at some one spot, and gradually extending itself westward. Various circumstances might be quoted vaguely corroborative of such an idea—as, for example, that mentioned by Dr Russell—that the true or typical attack of the disease consists not in the usually observed dysenteric symptoms, but in the immediate nervous collapse, as if, by an electric stroke, that gives these their significance: the fact, also mentioned by Dr Russell, that attacks of cholera are most frequent in the night, when, as is well known, the natural electrical condition of the body is more depressed than during the day; besides, all the observations that have been made clearly connecting the appearance and disappearance of cholera with thunder-storms, magnetic derangements, &c. But most conclusive on the point are the observations of the French electrician, M. Andriaud, during the recent prevalence of cholera in Paris. According to a letter from this gentleman, which appeared in the French, and also in some of the English journals, an electrical machine, which he had been in the habit of constantly working, suddenly ceased to give sparks of anything like the ordinary magnitude, and this without the operation of any observable cause. On one day the machine would yield no sparks at all, and only after a violent thunder-storm did it begin to act again. This variation of the electric capacity of the machine M. Andriaud found, to his surprise, to correspond so exactly with the progress of cholera in Paris, that at length he was able to announce the state of the daily bills of mortality by taking the state of the machine as his index and informant. The irregularities of the machine commenced with the appearance of cholera: the day when the cases were most numerous, was the day on which the machine stopped; and the same thunder-storm that restored the machine to working condition, restored Paris to a better sanitary state. M. Andriaud's conclusion, as stated by himself, is, that in the atmosphere of the earth there is a permanent 'mass of electric fluid,' and that the increase or diminution of this mass may be a cause of disease. Such phraseology, as well as that used above, may be premature, and not accurately descriptive of the real facts of the case; but, at all events, the theory that cholera is 'something electric,' appears to have gained in precision when provisionally so expressed. Whether a well-weighed electrical theory of cholera, while helping to explain its manner of progress—as, for example, its capricious selection of certain localities, apparently for their mere peculiarities of soil and geological character—would also suggest practical curative measures, must be left a moot question.

To the foregoing general considerations regarding the physical nature of epidemics, one might add many others relating to their social effects, and their function in the historic development of the human race. Hecker occasionally glances at this great theme, but with little insight or clearness; and indeed, to do it anything like

justice, would require a special treatise. Two methods by which epidemics might act so as to draw after them social results of great magnitude, must strike every one—1st, That which consists in the unusual stimulus they must necessarily give to all human activity, by leaving behind them everywhere a civic blank or void to be filled up; and 2d, That which consists in the permanent alteration they are calculated to produce in the moral and emotional character of a people or an age—an alteration which should usually take the form, one would think, of increased piety and seriousness. Another way, however, in which epidemics may produce lasting social results, is by the direct influence which, as physical phenomena, they must necessarily exert on all the human organisms submitted to them. If, for example, exposure for a while to a stifling atmosphere blunts and deadens the intellect—so that a book written in such an atmosphere (to make an extreme supposition) must necessarily be an inferior performance to what the same person could have produced had he worked all the while in a healthy room—what must be the result of the subjection of a whole population for several months to an equivalent state of things? Must not the whole intellectual procedure of the population be for the time lowered and toned down, as if by universal ill-health and headache? And must not the literary products, artistic creations, and mechanical inventions of that age be necessarily in a corresponding degree poorer? Nay, recurring to the hypothesis argued above, might not one conceive that as a certain aggregate of telluric and atmospheric conditions is necessary to life, and as a reduction of this aggregate (as, for example, a depressed electric condition of the earth's surface and atmosphere) tends to kill human beings, and to blunt activity, so a certain different change in the aggregate (as, for example, a raised electric condition of the earth's surface and atmosphere) may tend to produce a directly opposite effect, and to call the human powers into more strenuous and lofty exertion? Might not the series of different intellectual manifestations that the different ages of the world have presented thus rest on a basis of vast physical vicissitudes? The imagination may run too fast in this speculative route, but the understanding tends to go in the same direction.

#### LONDON GOSSIP.

IN common with all other Londoners possessed of ways and means and opportunity, I have had a holiday, and took a flight northwards to view your Highland hills and lochs, which will account for the long interval that has elapsed since my last 'Gossip.' It is a delightful privilege to get away for a few weeks from this huge, smoky, and noisy city, and the means are wonderfully facilitated by excursion trains. A few weeks since, a multitude was thus enabled to visit that beautiful and classic city, Oxford, for a very trifling cost; and 3000 of the busy artisans of Birmingham were conveyed from their furnace-fumed town to Lincoln and back—180 miles—for ninnence! We may well exclaim—Success to the rail!

On one of my rides I observed that the grassy slopes of the cuttings on the Great Western Railway were being fed off by sheep, thus turning to profitable account what has hitherto been waste ground. The same practice will doubtless be adopted in other quarters. You are perhaps aware that in some parts of France vines are planted on such slopes: we could do the same, did our climate permit; but, at all events, the sides of excavations and embankments in this country might be advantageously converted into strawberry-beds. I may further mention that a great convenience and comfort would result to the travelling public were a ready supply of water, with a drinking-cup or glass,

kept at every station, so that passengers could help themselves from a tap. As a case in point: we were leaving Newcastle-on-Tyne; a lady became faint and ill, and eagerly desirous of a draught of water; but although we inquired for the pure element at every station, not a drop could we obtain until we had travelled the whole length of Northumberland, and arrived at Berwick. Perhaps some general means could be devised of remedying this defect. I am told that on the Leeds and Manchester line there is a supply at every station.

Apropos of railway travelling, *speed* seems to be the chief essential point with passengers; and people who, ten years ago, had no locomotive resource but the slow broad-wheeled wagon, now grumble because, for one penny per mile, they are not conveyed at a greater rate than twenty miles per hour. Surely, all things considered, this is a sufficiently beneficial result? The grand desideratum, however, is now to discover some means of resolving ourselves into a message, when we may be flashed along the wires, and pick ourselves up again at the end of the transit; but in what sort of corporeal identity, is not yet determined.

Town wears a very different appearance (that is, to the accustomed eye) to what it did when I wrote last. Now the press and rattle of carriages at the West End are a phenomenon on which tradesmen, who do not find their share of the fifteen thousand strangers who visit London daily sufficient for their wishes, dwell with regret and hope, as their cogitations take the retrospective or prospective hue; and it would amuse you to hear of some of the schemes by which stock-in-trade is kept moving. No more dinner-parties now—no brilliant soirées—no réunions—no parliamentary debates—for six mortal months. It is puzzling to know how those dependent thereon for profit or pastime are to exist in the interval. River trips, Hampton Court, and the 'Gardens,' are now all the vogue: as I remarked before, everybody goes out of town. The two archaeological associations are ruralising—one at Chester, the other at Salisbury. Even the astronomer-royal has said farewell to his telescopes, and set sail for the Orkneys, leaving us to swelter through the canicular period with such dogged resolution as we may.

You will perhaps say that I am running too much on 'things in general,' and travelling beyond the limits of legitimate gossip; but I stand on my vested right as a gossip to discuss matters in my own way. Languid as metropolitan life is in many respects, we are not without tongue-work; and at present, attention is pretty much divided between Financial Reform, the Hungarians, and Cholera. I heard a German making merry on the last-mentioned subject, chanting some rhymes as he walked. Perhaps he was an involuntary exile.

With regard to cholera, although there is nothing like general panic, there is yet a very general disposition prevalent to discuss sanitary measures. The new Sewer Commission are rather sharply criticised, because they don't go a-head fast enough, by people who forget the good service they have already rendered, were it no other than relieving us of the late heptarchy of Sewage Commissioners; and who seem to ignore the fact, that the effects of mismanagement, dating from the era of the Plantagenets, are not to be removed with absolute celerity. By and by, when the maps of the Ordnance Survey shall be published, so that the levels may be ascertained, we shall get to work, and the result will doubtless be either a series of receptacles, or one grand, deeply-laid sewer—a *cloaca maxima*—which shall convey



the refuse of the metropolis far away into the dreary marshes of Essex; and thus free the town and the Thames from their present pollution; a consummation devoutly to be wished. I wish the moral refuse could be as easily removed. Meantime new streets are being opened and built: one in particular from Queen Street (Southwark Bridge) to Blackfriars' Bridge, will be a material improvement, as ventilating a densely-packed district, and relieving Cheapside of much of its present excess of traffic. By the way, it is to be desired that there were other east and west avenues to the city besides the single line of Cheapside and the Poultry: it is wonderful how the roaring stream of life and business contrives to effect a passage through such a narrow strait. We may hope that the citizens will some day wake up to the necessity of an amendment in this respect.

Talking of streets, reminds me that a month or two since several houses at the corner of Drury Lane and Great Queen Street were pulled down to be rebuilt. The removal of these edifices has long been desiderated, so as to straighten and widen the approach from Long Acre to Great Queen Street; and while the work of demolition was going on, the 'Woods and Forests' were apprised of the fact. They sent their surveyor to look at the place, and that appears to be all they did in the matter; for the new houses are now built and tenanted, and we are as far as ever from a straightened line of street. The comprehensive system of anticipating and effecting street improvements which prevails in Paris, might be adopted or imitated here with advantage to all parties.

You will be pleased to learn, in connection with sanitary matters, that model houses are likely to flourish. The Society for 'Improving the Condition of the Labouring-Classes' has just commenced the erection of a building to accommodate forty-eight families in Streat-ham Street, Bloomsbury. Some improvements will be introduced which past experience has shown to be necessary: each set of rooms will have a small lobby, to be entered from the outer-door, instead of opening directly into the living room, as is the case in similar buildings already erected. The floors, too, will be of hollow bricks laid in arches; thereby rendering the structure fire-proof. Lodging-houses of this character are at present attracting much attention in Prussia and France.

Apropos of subjects allied to general ameliorations, did you read the statement made in the 'House' on one of the closing nights of the session? If we may believe the report, the peat-bogs of Ireland are to become 'a second California.' After manipulating, and otherwise operating on a hundred tons of bog, at a cost of less than £20, certain products will be realised worth £91: a very satisfactory and encouraging result, if true. But several years ago, a company expended many thousand pounds in works on Dartmoor; and although they succeeded in obtaining naphtha, ammonia, grease, &c. from the peat, yet, as a commercial speculation, the business did not answer. It is possible, however, that with newer scientific experience, and the lately-recognised value of peat-charcoal as a deodoriser, better success may attend present efforts; and could such be realised, we should at last have something like a well-grounded hope for the regeneration of Ireland. Scotland, too, might participate in the good fortune; for, as I have seen with my own eyes, peat-bogs are by no means scarce in the 'canny north.' The subject has come under discussion at the Botanical Society.

Do you remember giving, about a year ago, an account of Sir Thomas Mitchell's discoveries in Australia? He was accompanied by an able officer, Mr Kennedy,

who afterwards headed parties to continue the exploration. The second of these started from Sydney last year, and intelligence has now been received of Mr Kennedy's death. He was murdered by the natives, and nine of his men subsequently perished of starvation. This augments the list of the gallant few who have met their fate while engaged in widening the boundaries of knowledge and science. Hopes are entertained that the unfortunate leader's papers, which were hid in a hollow log of wood, will be recovered. Jackey Jackey, a native, one of the survivors of his party, has been sent to search for them. From Australia to the north frigid zone is a long leap; but you will understand why I make it (on paper), when I tell you that a letter has just come to hand from Sir John Richardson, dated Fort Confidence, on Great Bear Lake, 16th of September last. You will not have forgotten that Sir John is one of those sent out by government to seek for Sir John Franklin's expedition. He has examined a considerable portion of the coast in the vicinity of the Coppermine and Mackenzie rivers, and questioned several parties of Esquimaux, but without obtaining the slightest intelligence of the missing party. The much-talked-of expedition of the American government—for which the thanks of certain public bodies in this country were voted—turns out to be all moonshine; so that we have nothing for it but to wait for despatches from Sir James Ross in Lancaster Sound, or Lieutenant Moore in Behring's Straits, or from a party just sent out in a whaler by Lady Franklin.

I have but little to say this time of literary affairs, but may just observe that a favourable indication of 'progress' has just made its appearance from the Admiralty, in their 'Manual of Scientific Inquiry,' edited by Sir John Herschel, and intended for the practical guidance of officers and others on active service. The eminent editor's name is a sufficient guarantee for the value and accuracy of the work, and it will in all probability pass into general use. In another quarter we have Sir David Brewster, after thinking of the subject at intervals for thirty years, attempting to prove that Junius—the political and literary sphinx—was no other than Lauchlin Maclean, a descendant of the Macleanes of Coll. The philosopher of St Andrews is perhaps as far from the truth as all those who have preceded him in endeavouring to elucidate the mystery.

Neither have I any extraordinary scientific discovery to announce. New planets do not turn up quite so frequently as continental revolutions of late; although the fact that Adams, the discoverer of Neptune, has had a pension of £200 a year conferred on him by government, may stimulate astronomers to look out for stranger orbs. A fifty-pound pension, too, is settled on Mr Sturgeon of Manchester, to whom we are indebted for the soft iron magnet: Mrs Austin, the well-known translator, is down for £100 a year; and Lieutenant Waghorn, the father of the overland route to India, for £200. Such grants as these are well deserved, and are satisfactory to the public at large, which is more than can be said of grants to military heroes. And here I may observe that the note of preparation for the meeting of the British Association at Birmingham in September is beginning to be heard. A large temporary edifice has been erected in that town to serve as the 'Exhibition' on the occasion: a good meeting is expected. And yet one more fact bearing on science: Spain, which has long been a dead letter in that respect, shows signs of awakening; measures are now on foot for establishing a Royal Academy of Sciences at Madrid. Should they be carried out, Spanish philosophers will then be able to show us a specimen of their abilities.

The whole collection of Nineveh marbles is now 'on view' at the British Museum—a fact which country cousins and sight-seers in general will duly appreciate. Talking of sights, the new and magnificent hall of the North-Western Railway terminus at Euston Square promises to become a 'lion': some persons go so far as to say that it is superior to the entrance-hall of the Museum; but this is a point which visitors had better

decide for themselves. There is no lack of eye-work for those who come to town: in addition to a panorama of the Mississippi, we have now one of the Nile, and another of the Eden-like valley of Cashmere.

#### SUMMER-TIME IN THE COUNTRY.\*

A JOURNAL of summer-time in the country! How musically the words fall upon the ear! What bright and pleasant fancies they bring! thoughts of the woods, the birds, and the bees; of the rustling leaves and the dancing brooks; of the woodbine-broidered lanes and the pure breath of the mountains; of the sorrel-bells under the shadowing fern; and of the bramble wavings on the broken quarry. As there is no spot under heaven which has not its own peculiar moments in which it is most beautiful, its own atmosphere of sun or cloud under which it should be visited, so has each hour in the day its own place, to which we instinctively turn our steps. In the early morning we wander in the dewy lanes, moving beneath the glorious cloister of summer boughs, to see the pearls lie on the web of the caterpillar, and the vetch climb up the glistening hedge-bank; or to watch the pimpernal unfold its scarlet petals, as the sunbeams peep through the leaves above, and chase each other in golden waves over the flower-besprinkled grass. When the noontide sky is bright and hot, we go to the woods—the dark, cool woods—to see the pale fritillaria nod quietly on her slender stalk, and to dream of long-past scenes and dim futurities, which, alas! may never come: to blend thoughts and scenes of childhood's hours until, with the harmless superstition of early youth, we spy out fairy forms sleeping beneath the large leaves of the arum, or lightly sailing down the brooks on the beech leaves which ourselves have set afloat: to sit breathlessly and watch the water-rat at play on the flowery banks or in the stream, or the squirrel in the trees: or to behold in thought smiling faces in the clear depth of the waters, which we can never more see on earth. But when the sun is low in the heavens, we go to the commons to see the edges of the heather and the fern gilded by his slanting rays; to mark how long ago the bright-eyed century retired to rest, and how calmly she sleeps, with the western breeze coming direct from the sinking sun, and playing around her; to hear the lark singing high in the air—mounting, like the good man, so far above the world as to seem unfettered by it; and yet, like the good man, blessing not only his own household in its lowly nest, but shedding his flood of music on all below—and to listen to the sad, yet not displeasing cry of the lapwing, that circles round our heads, discovering her home by the very clamorousness and anxiety of her care to conceal it from us.

To all these places Mr Wilmott leads us, bringing with him thoughts which are pleasant to read, and pleasanter far to look back upon, and to remember in the twilight and the lonely hours: thoughts of spirit-haunting pictures; parallels of prose and verse, to prove that human hearts have beat with the same pulse in all ages; and fancies and feelings of great and good men—men who 'still rule our spirits from their urns.' And when the night comes on, he calls upon us to follow him back to the lanes we left in the morning, to see the hedge-banks, now thickly studded with the tremulous stars of the glow-worms, to read the 'Even-Song' by their 'cool, green light;' but we will let him speak for himself:—

'All the bank is on fire with these diamonds of the night, as Darwin calls them. If Titania had overturned a casket of jewels in a quarrel with Oberon, the

grass could not have looked gayer. Thomson describes the appearance with his usual liveliness:—

"Among the crooked lanes, on every hedge  
The glow-worm lights his gem, and through the dark  
A moving radiance twinkles."

Perhaps he is slightly astray in his zoology; for although the male has two spots of faint lustre, the female is the real star of the woodpath.

'Coleridge, in a note to one of his own poems—

"Nor now, with curious sight,  
I mark the glow-worm as I pass,  
Move with green radiance through the grass,  
An emerald of light!"

drew attention to Wordsworth's epithet of *green*, applied to the light of this insect.' Miss Seward expresses her surprise, in childhood, that poetic eyes should not have observed this verdant hue. But we own that we feel more astonished that any discussion should have been raised on so self-evident a point; on a question which, we imagine, no eyes, poetic or prosaic, could for a moment hesitate about. But to return to our extracts.

'Glow-worms are the food of night-birds, which of course track them by their shining. To put out the candle, therefore, is the surest way of escaping the robber; and perhaps their apprehension of enemies may account for the short time of their illumination. Mr Nowell quotes a curious experiment of White, who carried two glow-worms from a field to his garden, and saw them extinguish their lamps between eleven and twelve o'clock. Later entomologists confirm this singular relation.

'But I have been turning glow-worms to a use this evening which no naturalist probably ever thought of—reading the Psalms by their cool, green light! I placed six of the most luminous insects I could find in the grass at the top of the page, moving them from verse to verse as I descended. The experiment was perfectly successful; each letter became clear and legible. I never felt so deeply and gratefully the inner life of the Psalmist's adoration:—"Oh Lord, how manifold are thy works; in wisdom hast thou made them all: the earth is full of thy goodness!"

'I know that poetry has turned the fire-fly into a lantern. Southey enables Madoc to behold the features of his beautiful guide by the flame of two fire-flies, which she kept prisoner in a cage or net of twigs underneath her garments. But surely I am the discoverer of the glow-worm-taper; and it answers the purpose admirably. By the help of this emerald of the hedgerow and mossy bank I can read not only the hymns of saints to God, but God's message to me. As the glittering grass of the Indian hills taught me wisdom, so these glow-worms are a light to my feet and a lantern to my path. I ought to employ my every-day blessings and comforts as I have been using these insects. I could not have read "Even-Song" among the trees at night, unless I had moved the lamp up and down: one verse shone while the rest of the page was dark. Patience alone was needed: line by line the whole psalm grew bright. What a lesson and consolation to me in my journey through the world! Perhaps to-day is a cloudy passage in my little calendar: I am in pain or sorrow of mind or body, my head throbs, or my heart is disquieted within me. But the cool, sequestered paths of the Gospel-garden are studded with glow-worms: I have only to stoop and pick them up. Yesterday was healthier and more joyous; my spirits were gayer; my mind was peaceable; kind friends visited me; or God seemed to lift up the light of his countenance upon me. These recollections are my lanterns in the dark. The past lights up the present. I move my glow-worms lower on the page, and read to-day by yesterday.

'Not for myself only should these thoughts be cherished. Every beam of grace that falls upon my path ought to throw its little reflection along my neighbour's. Whatever happens to one is for the instruction of an-

\* A Journal of Summer-time in the Country. By the Rev. Robert Aris Wilmott, Incumbent of Bear Wood, Berks. Author of 'Jeremy Taylor, a Biography.' London: Parker, West Strand. 1848.

other. Even the glow-worm, humblest of lights, has its shadow.'

In this kindly spirit Mr Wilmott moves over hill and vale, gossiping gaily of nature, men, and books: now gravely discussing the merits of a Rubens or a Raphael; now stringing together stories of renowned gardens and gardeners; now correcting the zoological mistakes of bard or dramatist; now following his own shadow, walking up to the 'park-palings to endeavour to look it in the face:' and now giving us such graphic descriptions as the following:—

'I see they are reprinting the speeches of Mr Fox. It is known that Burke called him a most able debater. The praise was characteristic of the utterer and the subject. Milton found little to commend in Dryden; and Rubens would probably have turned away in disgust from the painted histories of Hogarth. Burke did not exclude the idea of eloquence from his definition. To Fox belonged the visible rhetoric. He swelled with the tide of invective, and rose upon the flood of his indignation. A dear friend has given me a vivid portrait of his manner and appearance. Holding his hat grasped in both hands, and waved up and down with an ever-increasing velocity, while his face was turned to the gallery, he poured out tempestuous torrents of anger, exultation, and scorn. But Fox the declaimer was paralysed by Fox the man. It was affirmed by a Greek writer, in a passage made famous by Ben Jonson, that a poet cannot be great without first being good; and Aristotle intimates that the personal purity of the orator was a question moved in his own day. Fox showed the truth of this critical axiom. His intellectual capacity was impaired by the moral. The statue is imposing, but the pedestal leans. I will add that the late Mr Green of Ipswich, an acute and well-informed observer, referred with admiration to Fox's speeches on the Reform of Parliament in 1797, on the Russian Armament, and to his reply on the India Bill in 1783, which he pronounced to be absolutely stupendous. His character had, however, one side of grace and beauty—he delighted in the simpleness of rural pleasures, and his eye was open to all the charms of literature and taste. It is very refreshing to accompany the stormy Cleon of Westminster into the shades of St Anne's Hill, and see him in the description of his surviving friend—

— "So soon of care beguiled,  
Playful, sincere, and witty as a child: "

enjoying the sunshine and flowers with an almost bucolic tenderness and freedom from restraint; either

— "Watching a bird's nest in the spray,  
Through the green leaves exploring day by day; "  
or, with a volume of Dryden in his hand, wandering from grove to grove and seat to seat—

"To read there, with a fervour all his own,  
And in his grand and melancholy tone,  
Some splendid passage not to him unknown."

One other extract we cannot refrain from making, on account of the truth and beauty which it contains:—"I was interested to-day by the remark of one of our most accomplished portrait painters. He says that he has observed in every celebrated person whose features he has copied, from the Duke of Wellington downwards, a *looking of the eye into remote space*. The idea occurs often in literature. Milton, perhaps, led the way by his description of Melancholy—

— "With even step, and musing gait,  
And looks communing with the skies,  
The rapt soul sitting in her eyes! "

Sterne assigns the same peculiarity to the face of his monk in the "Sentimental Journey." His head "mild, pale, penetrating; free from all commonplace ideas of fat, contented ignorance looking downwards upon earth; it looked forward at something beyond the world." Nothing can be more exquisite than the iteration. The late Mr Foster probably had this portrait in his remembrance when he described the Christian in society—in

the world, but not of it:—"He is like a person whose eye, while he is conversing with you about an object, or succession of objects, immediately near, should glance every moment towards some great spectacle appearing in the distant horizon."

'Mr Moore's elegant tale of the "Epicurean" supplies another example, &c; and a fourth illustration is furnished by Mr Keble, in his picture of Balaam foretelling the happiness of Israel and the rising of the Star:—

"Oh for a sculptor's hand,  
That thou mightst take thy stand,  
Thy wild hair floating on the eastern breeze;  
Thy tranced, yet open gaze  
Fixed on the desert haze,  
As one who deep in heaven some airy pageant sees."

'The artist to whom I alluded does not add literature to his genius. I believe he never heard of Foster: it is just possible that he may be unacquainted with Sterne. His remark would then be the fruit of independent and individual experience; and on that account lending a most interesting commentary upon the illustrations of fancy.'

In conclusion, we recommend this little work to all who feel the beauty of nature, to all who seek for health on holidays in the pure breath of the country, and chiefly to all who, prizing and valuing these charms, are yet prevented, by the stern dictates of business and duty, from visiting the scenes which they so much delight in.

#### CONFESSIONS OF A BASHFUL MISS.

'So sweet the blush of bashfulness,  
Even pity scarce can wish it less.'

THE miseries of a bashful man have often been the subject of pity to the kind-hearted, but I do not remember ever to have seen the miseries of a bashful girl touched upon; and, believe me, they are as keenly felt, although not so severely remarked upon by the world, as the other. I received what is called a very careful education—that is, I was taught all that other girls are taught—but was kept so strictly confined to my school-room, and so entirely secluded from company, even the society of companions of my own age, that to me it was positively a painful sight that of the 'human face divine;' and when, at sweet seventeen, I was told that it was now time to form my manners by seeing a little good company, I think I would rather have heard that my friends designed me for a convent. I was not very easy even when conversing only with my own sex, if they were entire strangers to me; but when a gentleman asked me the simplest question—requested me to drink wine with him (as was the custom in the bygone days I speak of), or, in short, showed the slightest wish to be commonly civil—I was in an agony, wished myself at home, blushed crimson, stammered, and answered confusedly I knew not what, and actually, for the moment, hated the innocent cause of my unpleasant sensations, and indeed myself at the same time for my folly in being abashed by a person I may have despised, and whose conversation, when I heard it addressed to others, perhaps appeared to me absolutely silly. In order to improve my mind, I had been encouraged to read a great deal; but as novels and tales were strictly forbidden, and the only books put into my hands were history, moral philosophy, and other grave useful books, my studies gave me little assistance towards bearing a part in conversation in the gay populous country neighbourhood where we resided. Observing on one or two occasions, when I timidly introduced the names of those books, and of the heroes and sages I had been taught to revere, looks of contempt and suppressed laughter, and overhearing the words, 'bas bleu,' 'précieuse ridicule,' &c. I resolved never to name literature again until I was able to dilate upon the last novel. My parents, however, had little patience with my shamefacedness, and most injudiciously lectured me in private, and



looked at me in public. One day, after a long sermon, I was desired to prepare for a dinner at Oakfield Park, and 'I beg,' added my mother, 'you will not sit like a stick, and look stupid, but try to talk, and make yourself as agreeable at least as you can. People will really begin to imagine you are a fool.'

'It is better,' answered I, 'to be mistaken for a fool, than to open my mouth and prove myself one, which I should infallibly do; for whenever strangers enter into conversation with me, I lose every rational faculty.'

'Oh, nonsense. You might talk just as well as other people if you chose it. I am sure, if you listen, you will see how very little there is in the general conversation that goes on.'

'Very little indeed,' I replied. 'I have seldom heard anything worth remembering.'

'Oh,' cried my father, 'tis just as I feared; vanity is at the bottom of all this modest humility. You won't speak unless you bring out something wondrous wise;' so saying, he left the room, and mamma, in following him, said more kindly, 'Do now, my dear, let me see you behave to-day more like other people;' but unfortunately added, 'I shall keep my eye upon you!'

I was neither sulky nor obstinate, and had every wish to oblige my parents, and overcome my bashfulness, which I felt was foolish; so, upon finding myself at table, seated next to a middle-aged, quiet-looking man in a brown wig and spectacles, I resolved to address him, as soon at least as I could think of anything to say. While coursing in vain through the realms of imagination for a subject, the words 'government,' 'corn laws,' 'radical publication,' struck on my ear; and taking it for granted that a man with a brown wig and spectacles must be a politician, and, for the same wise reason—added to a certain pomposity in his look and manner—a Tory, I resolved to converse upon a squib that had recently appeared in the 'John Bull.' Just as I was turning towards him, I unluckily caught my mother's eye making a sign for me to begin some conversation, which so completely *bouleversé* the little resolution with which I had 'screwed my courage to the sticking-place,' that I instantly lost all my self-possession; but not now daring to sit any longer silent, I began with a fluttering manner and unsteady voice—'Pray, do you ever read "Tom Thumb?"'

The respectable man, not sure what could possibly be my meaning, and wondering whether I was a wit, a quizz, or an imbecile, after a pause, answered, 'Not for a long while.'

'I thought,' answered I, unconscious of the blunder I had made, and gaining courage from what I considered to be the stupid old gentleman's evident ignorance of what was passing in the world, 'that it had not been published many months.'

'Not many months!' replied my astonished auditor; 'oh—oh—ah! A new edition, I suppose! It used to be my delight, as was "Goody Twoshoes."'

Goody Twoshoes! thought I; the poor man is insane; and I began to feel more uncomfortable than ever when, from my amazed and distressed countenance, suspecting some mistake, he, with a benevolent smile, requested to know what question I had asked him. 'I begged to inquire,' I answered in a displeased voice, looking as steady and stern as I could, in order to awe him, 'if you read the "John Bull?"'

'You doubtless, my dear young lady, meant to have done so; but you did, in fact, question me concerning "Tom Thumb."'

I tried to laugh, though tears of shame stood in my eyes, begged pardon, said I was absent, &c.; and, tingling to my fingers' ends, prayed for the ground to open and swallow me up, then sat mute, looking like a condemned criminal, until the joyful signal was made for the ladies to retire. I did not recover my self-possession the whole evening, and had to endure a severe lecture in the carriage going home, with pretty strong hints accompanying it, that certainly there must be something defective in my understanding.

'If you were punished as you deserve to be for your stupidity,' said mamma, 'you ought to be made to send an excuse to an invitation for a ball to be given by the officers of the 40th Light Dragoons, and to which General and Mrs Calderhall have kindly offered to take you.'

Go to a ball! go to a prison rather, I felt: it is ten times worse than a dinner-party. But as it was settled that I was to go, I endeavoured to discipline my mind to the dread trial, and console myself with the sight of my white crape-dress, trimmed most appropriately with blush roses. The awful night arrived! My terrors rose thicker and thicker at every whirl of the carriage wheels, which brought me nearer to the place of punishment; and when we entered the barrack yard, I became literally sick with apprehension, and was nearly fainting when we stopped. The steps were let down quickly, and I was carried off—scarcely knowing whether I stood upon my head or my heels—by one of the officers appointed to receive the company, through files of soldiers holding flambeaux, into a room as full as it could hold of ladies, in every colour of the rainbow, and gentlemen in uniform, where I was presented to the colonel's wife, and placed upon a chair almost gasping. When in some degree I recovered my recollection, I began to look about me; but was soon alarmed afresh by finding a pair of black bead eyes looking fixedly upon me; and whichever way I turned, those horrid eyes seemed to glare upon me. Their possessor was a tall slender young man, who looked as stiff as if he had swallowed a ramrod, who seemed to amuse himself at my agitation, and succeeded so completely in annoying me, that I considered all the rest as nothing; and that, could I only get rid of the eternal glare of those horrid eyes, I should be quite at my ease. At last we adjourned to the dancing-room; and I, rejoicing in having got rid of my tormentor, sat down beside my *chaperone*, and fervently thanking goodness no one had asked, or was, I hoped, likely to ask me to dance, as I knew nobody in the room, felt a lively interest in observing what was passing around. But alas! scarcely had I begun to feel something like calmness, and to hope for amusement from a scene so new to me, when I descried Mrs Fitzbattle advancing with a smile, my head-eyed tormentor by her side. She introduced him as Mr Stonefield; and when he asked me to dance, and presented his arm, I did not dare do otherwise than accept it. We took our place in the quadrille; and after my unfortunate partner had exhausted every subject, and received for a reply a sheepish undertone 'Yes, sir,' 'No, sir,' or perhaps, 'Oh, sir,' or the 'Yes,' 'No,' and 'Oh,' without the *sir*, when I remembered having heard it was vulgar to *sir* any gentleman, he turned in despair to converse with a fine-looking brother-officer, whose open good-humoured countenance made me wish he had been my partner rather than Mr Stonefield. But my observations on Captain Riversdale's personal attractions were cut short by the horrible certainty that the top string of my frock had either broken, or come unloosed, and that any attempt to dance would cause it to fall off my shoulders. Anything seemed preferable to such a climax; and with the courage despair gives, I turned hastily round, and observing Mrs Fitzbattle not far off, told her my tale of woe, and begged her to retire with me, which she good-naturedly did. Upon my return, the first object I beheld was Mr Stonefield, and the first words I heard were, 'Egad! my partner's eloped! Can't find her.'

'Stolen or strayed, a meek little maid,' cried another, laughing aloud at his own silly wit.

'Poor little thing,' I overheard Captain Riversdale say, 'she is very young, and must be quite new to this wicked world, for she seems sadly afraid of us all.' At that moment Mr Stonefield spied his victim; and coming up, claimed me as his property, and proposed we should finish the dance. My next partner was Lord Bothwell, who did not make much inroad on my peace of mind, inasmuch as he seldom spoke; and when he did, said nothing that required an answer. Soon after,

released from him, I so far recovered my self-possession as to begin a discussion with a young lady who sat next to me, and whose lively yet gentle manner emboldened me to chatter even familiarly.

'Can you tell me who that handsome, pleasant-looking man is whom I danced with last? I did not catch his name, and I like him so much.'

'Yes,' replied she, looking as if amused, 'I can—it is Major Dale.'

At this moment the object in question advanced, and requested me to go with him to supper; and there, with the help of champagne and his good-natured attentions together, I found I could talk even to an 'officer and a gentleman.'

'Do you know who that pretty girl is to whom I was talking when you asked me to come to supper?'

'Yes: she is Mrs Dale, my wife.'

'Your wife! I didn't know you were married. You don't look like a married man.'

'Don't I? But I am that unfortunate individual nevertheless.'

'Oh, oh! Don't you know it is very wrong to speak so?'

My silliness or innocence had by this time attracted the attention of those seated near me, among whom was Captain Riversdale; who, at the next public assembly I went to, convinced me that balls were not so very dreadful, and could even prove agreeable, when among those who composed the party there was one we preferred. What could make that strange man fall in love with a bashful miss, I am sure I cannot tell, and far less could I describe the wild agitation into which I was thrown by the discovery that he had done so. Such matters, however, they say, are managed in a very different place from a ball-room; and somehow or other it did happen that my extraordinary defect was the cause of my lasting happiness. The gallant captain, in short, was so much to my taste as a partner in the dance, that he had little difficulty in persuading me he would make quite as agreeable a partner for life. So, in four months from my first appearance, I bade adieu to my name and my bashfulness, and have never repented losing either.

#### THE THAMES-BANK BUILDING-WORKS.

In London, houses are not built singly, but by wholesale. The rapidity with which the town is spreading into the surrounding country appears to receive no check, and to admit of no cessation. Year by year the map of the metropolis takes new forms, and juts out in every direction fresh angles. To supply this insatiable demand for house-room, it is not the practice—except in rare instances—for capitalists and builders to construct solitary streets; such limited speculations would, it seems, give no adequate supply: they therefore plan and execute, with wonderful celerity, whole neighbourhoods, which suddenly rise upon acres, and even square miles, of quondam green fields, like the city of Cadmus. Marylebone fields now bear upon them the weight of the circular neighbourhood which surrounds the Regent's Park; Paddington fields were wholly bricked over in some five years with a suburb, which now makes the village itself difficult to find; although, within the memory of even young Londoners, it stood naked and alone, bounded towards the west and north with flourishing farms; the Westbourne estate hard by was covered with streets, squares, and terraces of palatial-looking habitations, in less time than was spent in raising the Scott monument in Edinburgh; and the celerity with which the city of palaces, consisting of Belgrave Square, with its surrounding crescents, squares, terraces, and streets, was elevated upon the 'five-fields' of Chelsea, has become a byword.

In contemplating these and a hundred other accessions to an already overgrown town, and while wondering at the quickness with which they are effected, the means and systems employed are seldom thought of or inquired into. It is a common supposition, that

because London houses are 'run up' rapidly, that they are unstable; and although the charge cannot be gainsayed as regards a few suburban streets and villas put together by a not high class of speculators, yet all the houses we have alluded to above are stronger and better built than any of an older date; because accumulating experience is not only directing architects and their subordinates to new materials, but science enables them so to shape and dispose of those already in use, as to give them the greatest possible strength combined with the minimum specific weight and economy of materials. The strongest house to be conceived (in proportion of course to the quantity of the material which goes to form it) is the cell of the bee, and it is also the lightest.\* The ponderous wooden beams employed by our forefathers required nearly as much support as they gave, and half the time to lift that a modern builder takes to finish a small house. It is improved knowledge, therefore, and not bad workmanship, to which, in a great measure, the rapid operations of builders are due. Indeed the mansions of 'Belgravia,' as well as those on the other side of Hyde Park, were built for the highest class of occupants; consequently they are as well put together as it is possible for brick, wood, and iron to be combined.

To convey a notion of the capital sunk in even one of the houses in Eaton Square—which is within the precincts of Belgravia—we may mention that No. 71, being the temporary residence of the Speaker of the House of Commons, costs the country nearly £1000 per annum for rent and taxes,† and that single square contains exactly 100 houses.

This may give the reader some idea of the magnitude with which building operations are prosecuted in London. It is now proposed to afford him an insight into how they are carried on. We have recently visited the works of the gentleman who planned and built the greater part of the aristocratic neighbourhood we have more particularly alluded to, and who has also covered a few square miles of the ground which lies between Belgrave Square and the river Thames with another suburb. In these works every art, science, trade, and handicraft which contributes to house-building is carried on, whether it be for clusters of cottages, *ornées*, or for a queen's palace. Mr Thomas Cubitt, the owner and director of this wholesale factory of habitations, being an architect as well as a builder, does everything within it, from the first plans and working-drawings, to the making a single plaster cornice, and even to the manufacture of the plaster itself; from the moulding of a brick, to the casting of a keyhole scutcheon. We perceive from the 'Annual Report of the Committee of the Workmen's Benefit Club at Mr Thomas Cubitt's, Thames Bank, Pinlicko,' that at work in, or connected with, this establishment, are the following trades:—Joiners, carpenters, bricklayers, masons, painters, plasterers, smiths, engineers, moulders, brickmakers, carters, clerks, and yard-labourers, besides many not mentioned in the list, whose position does not necessitate them to belong to the club—such as sculptors and architectural

\* This fact is curiously illustrated in 'Crombie's Natural Theology:—'Reaumur, presuming that the angles of a honeycomb were adopted for the purpose of saving material, proposed to Koenig, a mathematician of eminence, that he should determine what should be the angles of a hexagonal cell, with a pyramidal base, to require the least material. By the infinitesimal calculus he ascertained that the greatest angle should be 109 degrees 26 minutes, and the smaller 70 degrees 34 minutes; the very angles which the insect adopts. What an astonishing coincidence is this! A profound mathematician is required to solve a very difficult problem, and it is found that his conclusion, gained by the exercise of considerable ingenuity and deep thought, was practically exhibited in the operations of the bee!

† The principles here evolved have recently received an important practical application. Those stupendous iron tubular spans recently thrown across the Conway and the Menai Straits are constructed on the cellular system; not in exact, but in general accordance with the honeycomb.

† The exact sum was, in 1841–1842, as noted in the Miscellaneous Estimates, £964.

and decorative draughtsmen; or others not recognised as artisans—such as a librarian and schoolmaster, stable-keepers, and, *mirabile dictu*, cooks! As to their numbers, and the capital required to pay them, there are 1538 men, who are paid upwards of £1600 every Saturday—our informant remarking that this is a peculiarly 'slack' time. The greatest number of men ever employed in the works was 2400, who were paid £2700 per week. The usual calculation as to building expenses is, that labour is about one-third the cost of material; consequently there is 'turned over'—to use a commercial phrase—in this establishment every year from £300,000 to half a million of money! As, therefore, such sums are annually disbursed from one establishment—and there are three or four others nearly as large, besides those of, according to the Post-Office Directory, about 770 smaller builders—the cost of the yearly additions to the British Babylon can be dimly estimated. Mr Thomas Cubitt's works stand upon 19½ acres of ground. The premises occupy lengthwise 1000 feet, on 600 feet of which stand the workshops. The machinery—of which there is perhaps a greater variety than in any other establishment in this country—is driven by four steam-engines of forty horse-power each.

Such are the rough statistics of this immense and unique factory; but we must descend to details.

The innumerable passengers on the steamboats which ply between Chelsea and London do not fail to notice near the Pimlico Pier, about midway between Chelsea Hospital and Vauxhall Bridge, a campanile tower of great height and elegant proportions, not unlike the Lansdowne Tower near Bath. It is so handsome an elevation, that few persons know its uses to be solely utilitarian—that it is, in fact, a disguised flue; not readily to be detected as such, for smoke seldom issues from it, inasmuch as it belongs to smoke-consuming apparatus. At its foot are two parallel ranges of shops; and the curious who are struck with these objects, learn on inquiry that they compose the building-works of Mr Thomas Cubitt. They stand near the edge of the river, on what is appropriately termed Thames Bank.

On entering these buildings, we were, during our visit, shown the joiners' room, after passing the pay-office, whence, by an admirable system, about a thousand pounds are distributed amongst as many men every Saturday afternoon at four o'clock in the short space of twenty minutes. When we say that this place contains at one side a long range of carpenters' benches, with room between each for putting together doors and windows of the largest dimensions, and that the other side is partly partitioned off for other benches, drying-rooms, and a sort of kitchen, it will be understood that this shop bears comparison as to extent with a small street. The precautions against fire are simple and ingenious. The building is not wholly fireproof, but is made so at each end, and in the middle, so that an accidental fire would terminate where it began; for its career would be stopped when it reached the unflammable portions. Such is the mode of prevention: the cure conveys a useful lesson to the proprietors of large buildings. It is a fact too well known to all those who possess fire-engines, that, being not in constant use, these machines are generally out of order when most wanted; but in this building they are discarded. In the joiners' room there are some half-dozen small self-supplying cisterns always full, and over each a few buckets are slung, not removable by any person for any other purpose than to put out a fire, on pain of fine and heavy displeasure. Thus water, and the means of distributing it, are constantly on the spot. Should, however, a flame promote itself into a conflagration, it can be played upon without by hoses applied to a pump in the yard, always available by steam-power or a capstan.

It is in the joiners' shop that you begin to understand the system by which houses are made by wholesale. It must have been remarked that the habitations of a modern street, if not precisely like each other archi-

tecturally, are similar in many respects. The doors and windows are almost all exactly alike. Suppose, therefore, a street of fifty first-class houses is to be built, there would have to be made for it fifty fore-doors, all as much alike as are the sheets of this Journal; for each house, say 6 doors (all of one size and description) for the basement, 5 for the ground-floor, 5 for the drawing-room floor, 7 for the second, 6 for the third floor, &c. or 6 sets each, making in all 1500 doors—about the same number of 'copies' as is usually printed of a flourishing country newspaper. The jest-books contain an example of the inveterate habit some have of talking in technicalities:—A printer's boy once complained that he could not get from one part of his master's office to another without opening 'a quire of doors.' A glance into Mr Cubitt's 'drying-room' showed us gigantic 'reams' of them stacked one upon another like planks in a timber-yard. This apartment is heated artificially to a temperature varying from 70 to 90 degrees, and dries the woodwork after it has been put together. Window-frames, shutters, and other stock articles are multiplied and dealt with in the same manner.

Let us now watch the operations in the joiners' room, and see the system by which this wholesale work is carried on. At the end of the shop we observe a draughtsman. With rule, pencil, and compasses, he is making—on a long strip of board prepared for the purpose—the working-drawings of a window-frame, from a design previously furnished him. Upon the margin the dimensions of each component piece is marked, where it does not actually appear of the intended size on the drawing; also any special instructions. Here is a specimen copied from the 'rod' (as such a working-plan is called) of a door-frame—'Grosvenor Crescent: height of doors for basement. To be kept in drying-room at least a week.'

In the 'cutting-out' rooms—apartments containing lathes, sawing, planing, and morticing machines, driven by steam—the 'stuff' (the carpenter's expression for his raw material) is fashioned into the shapes and dimensions indicated on the rod or pattern. The machine-saws cut so evenly, that the plane has only to go over the work after it very lightly; indeed floor-boards are laid down just as they come from the saw, a few shavings being smoothed away here and there at the seams after the floor has been laid. Such is the mathematical accuracy attained by the use of machinery, that in making up a hundred door-frames or windows from the same 'rod,' any one of the hundred tenants of the hundred crosspieces will exactly fit the mortices in any one of the same number of uprights.\* The proper pieces are therefore taken at random from each heap, tied up, and sent to the joiners to be fitted and glued together.

This is done in the quietest manner possible, and it is some time before the visitor discovers how it is that this joiners' shop differs so much from those of the old school: there is no knocking, no noise. The artisan, instead of hammering the door after it is fitted and glued, places it upon a screw-bench. By a few turns of the worm, the sides of a frame contract and force themselves against the outer edges of the door, with the even, stealthy, inevitable pressure of the Iron Etroud. The compact and ponderous wooden leaf is then taken from the press and handed off to the hot-air department, just as a

\* We may here instance the infinite mechanical accuracy attained by Mr Whitworth of Manchester. That gentleman has constructed a gauge by which, in a temperature of 60 degrees Fahrenheit, he can measure to the ten-thousandth part of an inch. All the screws, both active and passive, which he makes for holding together the machinery he manufactures are numbered; each set of screws, distinguished by its number, is so rigidly of the same size, that, supposing two or more steam-engines or other machines to be taken to pieces, and huddled together in one heap, and the screws in another, the engine can be put together again by selecting the active screws merely by the figure stamped upon them, and inserting them in the passive screws that have the same number stamped beside them on the component parts of the machine.



printer sends away his sheets from the press—in numbers hardly greater—to the drying-room.

It enlarges one's ideas of the extent of this hive of house-makers, and of the strictly departmental plan on which it is necessarily conducted, when we know that one man is employed to do nothing else but to grind the joiners' tools, another to sharpen saws, and a third to cook the glue. The bright, clean, copper glue-pots, marshalled on the stove that heats them, form an exhibition that would charm the eye of a French *chef de cuisine*; but of the culinary department of these works anon.

The superior lightness of iron in proportion to its strength has caused a great quantity of that material to be used for building purposes; the smithies and casting-shops of these works are consequently very extensive. Joists and girders are chiefly of wrought or cast-iron, and iron hooping is employed to bind together the bricks and mortar of party-walls, the use of bond-timber being forbidden by the new building act. Connected with this department is the 'proving yard,' where, by the agency of hydraulic power, the soundness of iron girders and other cast-iron work is tested. The machines now in use for such purposes attest the omnipotent dominion of science. With great prowess we are apt to associate great size—immensity; but in these works a small iron vessel is pointed out, in shape like a gas-retort, and in size not much bigger than a gallon spirit jar. 'That,' said our informant, 'is a hydraulic press, which, when fitted to a pump, is capable of applying to any object a pressure equal to one hundred tons.' To the test of this little instrument everything destined to bear great weights is brought—to be broken in shivers should any flaw exist, but to be pronounced capable of bearing its allotted weight if sound. The rule for arriving at a verdict in favour of iron girders is, that if they are found capable of supporting three cwt. upon every superficial square foot of flooring, they are pronounced 'good.' Some notion of the capabilities of these small, harmless-looking machines—and also of those of the common brick for bearing pressure—may be formed when we mention that we saw the fragments of a common brick which had not been smashed till a pressure equal to the weight of eighty-five tons had been applied to it!

The metal-workers in this establishment are not confined to the rough and massive materials used in modern building, but they also fashion every ornament and accessory which convenience, art, or luxury demand—from the *batterie de cuisine* which furnishes the royal table at Osborne House,\* to the tiniest and most elaborately-ornamented grate for the boudoirs of Belgrave Square. Specimens of this sort of work are ranged in warerooms, which are as extensive as those of a first-rate stove-factor's, and form quite an interesting exhibition. Indeed nothing is omitted. The Vulcans of Thames Bank are sometimes called upon to produce ponderous park gates (from patterns designed and carved on the premises), and at others to tame their energies down to mere railings for scullery areas; from casting a Corinthian column to forging a kitchen poker; from making an elaborate planing machine (for nearly all machines and tools are made on the spot), to hammering out a simple roasting spit—nothing comes amiss. Not the minutest detail of household requirement is forgotten. When we visited the brass-workers, some were casting water-taps, and others 'filing up' ornamental slits for those letter-boxes which the Postmaster-General has so earnestly recommended to be inserted on street-doors, to facilitate the rapid delivery of letters.

We should mention that the smithies (in one of which is a steam-hammer) and casting-houses are on opposite sides of the yard. The former, from its cleanly appearance, is unlike any forge we had ever previously seen: a housewife would pronounce it 'tidy.'

In crossing the yard, the visitor perceives huge blocks of marble of all descriptions, from the veined white of the Carrara quarries, to variegated red from Sienna. Some of them he sees, under the resistless teeth of steam-saws, being sliced into slabs; and on entering another set of shops, he is shown the operation of smoothing and polishing the slabs by the same agency. The collection of chimney-pieces thus produced, after passing under the hands of skilled sculptors, is almost a study in decorative art. As to the number manufactured, we must help our guesses by again remembering that enough are required at once, not for single houses, but for streets and neighbourhoods.

The ornamental-plastering department has its walls covered with every variety of design; some from art-models, others from nature. It is, we were told, Mr Cubitt's habit, when he finds opportunity, to collect leaves and other foliage, and to have such as are adapted for architectural ornament cast in plaster. Several of these casts are hung on the walls, and serve as patterns for cornices, friezes, &c.

The glaziers' shops are stored with window-glass, and display some very pretty specimens of transparent painting. In the painters' shops little is done, as this branch is necessarily performed on the buildings themselves when nearly completed. The colour-makers are, however, busy enough, for the mills in which the pigments are ground are seldom at rest; neither are the plaster and cement-mills often idle. In short, this establishment is like the kingdom of China—it is self-producing and self-supporting: it discards all foreign aid. 'Some of the branches,' said the gentleman who kindly showed us over the works, 'are not profitable; but we find it indispensable to maintain them, that we may get things when we want them. We have had formerly to wait weeks for a casting, which often caused us great inconvenience.' It is therefore from no desire for monopoly that every operation of the building and furnishing trades is carried on.

The powers which set all the machinery of these works in motion present nothing different from other factory steam-engines, except the elegant flue. There never, perhaps, existed what an American would designate a 'taller' specimen of the useful combined with the ornamental: æsthetically—if a factory chimney may be allowed so long a word—this erection is a pleasing mark for the eye to rest upon amidst the not very picturesque landscape which surrounds it; and will not be objected to by the aristocratic neighbours which Mr Cubitt's houses are fast attracting within sight of it. But its beauty is also its utility, it being nothing less than a square case or shield for the enormous brick tube, or real flue, which rises within it, and which it shelters from the exterior atmosphere. By thus keeping the chimney warm, or, in other words, preventing the hot air draughted from the furnaces from cooling too rapidly, an increased draught is caused, equal to that which could only have been obtained by running up the flue fifty feet higher than the 105 feet to which it rises at present. That its campanile character might be truly preserved, it is in this tower that the bell is hung which summons the artisans from their meals to their duties.

Let us hope that this elegant structure will be a model chimney for manufacturing towns. Besides superseding the dangerous height to which some are elevated (as witness the fate of the St Rollox chimney), if all the 'stalks' in Manchester and Glasgow resembled Mr Cubitt's smokeless tower, those towns would appear as cities of palaces, instead of looming in the distance like the mouths of Erebus.

No one can take the most cursory glance over this establishment without seeing that it had been formed, and is supervised by a comprehensive mind, gifted with a ready faculty for contrivance, and possessing an extraordinary mastery over details. Although so many trades are carried on, yet each set of workmen seem to play into one another's hands without the loss of a minute, or the interposition of the most trifling diffi-

\* Mr Cubitt was not only the builder, but the architect of the Queen's marine villa at the Isle of Wight.

culty. Strict routine, and the harmony with which it is followed, were, so far as we could judge, perfect. This may in some degree arise from the fact of Mr Thomas Cubitt being, except on rare occasions, his own employer. He chiefly builds upon ground he has already bought, and that he covers with houses upon a well-considered plan, which embraces every detail.

But a far more admirable quality of mind pervades these works than intellectual skill or invention; and that is benevolence. That feeling presents itself in every part of the establishment—is interwoven with its very mechanism. The comfort and safety of the men are provided over with a care almost parental:—a comfortable temperature is maintained by an ordinary heating apparatus, and is regulated by thermometers; the ventilation is complete, and no foul air can pollute the atmosphere; for, by a simple contrivance, the only exit for the air of every closet, or place where it is likely to be bad, is into the nearest furnace; so that for it to escape into the other apartments is impossible. Personal comfort has been carefully studied. Attached to each department is a cooking-stove and a—cook, to whom such men as choose to eat their meals on the premises consign their dinners. The stoves and ovens are precisely such as are supplied to noblemen's mansions; for it is a principle here to let nothing leave the factory which has not been tested by actual experiment. Hence there is not a kitchen in the works in which Soyer could not dish up a banquet fit for royalty. There is, besides, a small house built expressly for making soup *secundum artem*; and this is supplied to the men at cost price—namely, at a penny per pint. A boiler of cocoa never ceases to simmer on each stove; and that nutritive beverage is in some cases supplied gratis, as an antidote to stronger and more harmful drinks. To each kitchen there is attached a lavatory—not, indeed, so handsomely fitted up as those at a club-house, but quite as efficient, with hot and cold water, soap, towels, &c. at will. Each 'trade' has also a separate dining-room; except the joiners, who prefer to follow the customs of their fathers, and dine on the ends of their benches.

In the smiths' lofty and spacious dining-room intellectual food is also administered. At a quarter to six o'clock every evening this becomes a school-room, which every well-conducted boy in Mr Cubitt's employment attends gratis. The studies are directed by a schoolmaster, under a committee of the foremen, and are preluded each evening by the free distribution to each boy of a huge mug of cocoa and a biscuit of considerable circumference. At present there are thirty-five pupils, and their progress is said to be satisfactory.

For the intellectual improvement of the men there is a library of about fifteen hundred works, including architecture, anecdotes, the arts and sciences, biography, chemistry, geography, geology, history political and natural, physiology, novels, periodicals, and poetry. We have glanced over the catalogue, and find these works are among the soundest that exist in the various departments. They are the property of Mr Cubitt, and are in the keeping of the schoolmaster. The subscription for current expenses is one penny per week. We regret to find that only 10 per cent., or 140 of the men in this employment, avail themselves of the great privilege that this library affords.

It is with pleasure we record a growing desire is being widely spread among manufacturers to ease the toils of their men by administering to their personal welfare and intellectual improvement. Visits which we have made to manufactories lately, not only in and near London, but in the manufacturing districts of the more northern counties, entitle us to report this pleasing fact with some confidence. Nothing is more certainly calculated to consolidate the union which it is to the interest of both parties should exist between employers and their workmen. Mr Cubitt's is happily one instance in point.

In conclusion, we may repeat that the rapid spread of London is a mystery not only to strangers, but to

its own inhabitants; but an inspection of the Thames-Bank Building-Works has tended in a great measure to solve the problem, by showing with what ease and celerity even one well-ordered establishment is capable of completing the most extensive works.

#### THE PRESENT TIME.

Full many a bard of Memory sings,  
And Hope hath oft inspired the rhyme;  
But who the charm of music brings  
To celebrate the present time?

Let the past guide, the future cheer,  
While youth and health are in their prime;  
But oh! he still thy greatest care  
That awful point—the present time!

Fulfil the duties of the day—  
The next may hear thy funeral chime;  
So shalt thou wing thy glorious way  
Where all shall be the present time.

M. A.

#### GENTLEMEN EMIGRANTS.

'You're a remarkably lucky fellow,' said Morris; 'for you are the first gentleman farmer in the settlement that I've heard of who has ever sold anything. For my part I am so accustomed to pay two or three great hulking fellows ten dollars a month to do me the favour of eating up everything the farm produces, and sundry barrels of pork and flour produced by some other farm, that the idea of selling anything appears absurd.' 'But how in the world is it,' asked Drayton, 'that the common people about us seem to be getting on so well? Some of their clearings are almost as large as ours; and they seem to have plenty to sell whenever we want anything. There are plenty of families about us here, who, when they came, hadn't a shilling, who now seem to want for nothing.' 'I don't think it very difficult to account for,' said Harry. 'In the first place, they have been accustomed to labour from their childhood, and what seems privation to us is comfort to them. For instance, we have pigs, and they have pigs; we fatten our pigs, and eat them; they fatten their pigs, and sell them to us, and live upon potatoes themselves. So with eggs, butter, poultry, flour, and everything we need, and they can do without; and yet they don't do without them entirely either; for after we have bought these things from them, we, as Morris says, pay them handsome wages to come and help us to eat them. They do all their own work, and then, for "a consideration," they come and help us to do ours, during which operation they must be well fed. Now, the result of this state of things is, that in consequence of our consuming their produce and labour, our money is being transferred into their pockets, and we are becoming poorer, and they are becoming richer.'—*Sketches of Canadian Life by a Presbyterian of Toronto.*

#### CANVASS OF AN ASSURANCE AGENT.

The Manchester agent of an assurance company gives the following curious results of a personal canvass at 1,349 houses, in seventy streets, in the districts of Hulme and Charlton, chiefly rentals from L.12 to L.24 per annum. The inquiry showed that there were 29 insured; 8 persons too old; 11 who never heard of life-assurance, and who were anxious to have it explained to them; 471 who had heard of it, but did not understand it; 419 who were disinclined to assure; 19 favourable, if their surplus incomes were not otherwise invested; 89 persons who had it under consideration, with a view to insure as soon as their arrangements were completed, and who appointed times for the agent to call again; 21 refused the circulars, or to allow an explanation; 175 doors not answered; 102 houses empty; 3 had sufficient property not to require it; 1 favourable, but afraid of litigation; 1 preferred the savings' bank; 1 used abusive language; 2 would trust their family to provide for themselves; and 1 had been rejected by an office, although he never was unwell, and was consequently afraid to try again, although very anxious.—*Builder.*

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